

REMARKS

By the above amendment, claim 1 has been amended to avoid inconsistency with dependent claims and to recite further features of the present invention, with dependent claims being amended in accordance with claim 1 and new dependent claim 8 presented.

Turning to the rejection under 35 USC 112, first paragraph, this rejection is considered to be overcome by the amendment of claim 1 to delete the feature that the tank is attached to the radiation plate, with claim 1 being amended to recite the feature that the tank is filled with a liquid. As illustrated in Fig. 9 of the drawings of this application, for example, the tank 5 is located in the first case and is not attached to a radiation plate. Thus, by the present amendment, applicants submit that claim 4 should be considered to be in compliance with 35 USC 112, first paragraph, since claim 4 is not inconsistent with the limitations of claim 1, as amended.

As to the rejection of claims 1 - 3 and 5 - 7 under 35 USC 103(a) as being unpatentable over Chu et al (USPN 6,587,336 B2) in view of Esterberg et al (USPN 5,566,048), this rejection is traversed insofar as it is applicable to the present claims and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 USC 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under '103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be

established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

By the present amendment, claim 1 has been amended to clarify features of the present invention in that as illustrated in Figs. 1 - 3, for example, and as shown in Fig. 2, the first case 10 to which a heat generating device such as a CPU 3 is attached and a second case 20 which is a display device and is rotatably supported on the first case with plural hinges 26a and 26b, and as illustrated in Fig. 3 the first hinge 26a has two flexible tubes 9a and 9b passing therethrough, which tubes serve

for transferring of liquid. That is, as described at page 9, line 25 to page 10, line 21, a flexible tube 9a which connects the tank entrance-side pipe 7 with the incoming radiational jacket 4 and a flexible tube 9d connects the pump 8 with the tank exit-side pipe 6 and pass through the hinge 26a. As described, this arrangement is made in consideration of safety by setting the water piping in the main body case 10 as short as possible. Furthermore, as recited in claim 1 and illustrated in Fig. 3, for example, an electric wire 23, which electrically connects the display wiring board with connector 24 on the main wiring board 1 of the case 10, is passed through the second hinge 26b. As noted at page 10, lines 10 - 20, the hinges are independently provided in correspondence with the type of piping or wiring so that the hinge 26a is provided for the circulation route of the liquid, and the hinge 26b is provided for the electrical signal. By discriminating the region of the electrical system through which the electrical wiring is passed through one hinge from the region of liquid tubes through which the liquid flows, by passage through another hinge, factors of electrical troubles are eliminated as much as possible and safety of the electronic apparatus is obtained in that the flexible tubes which serve for transfer of liquid are not positioned together with the electric wiring. Applicants note that by the present amendment, such features are now clearly recited in claim 1 and the dependent claims.

Applicants further note the location assumed to have the highest probability of producing a liquid leakage corresponds to the flexible tube portion passing through a hinge part between a main body case and a display device case. When utilizing a liquid cooling system and an flexible tube is generally required as well as electronic wiring for connecting a main body case and a display device case and when the flexible tube and electronic wiring are passed in one hinged hollow pipe, for example,

there is the possibility that the liquid might flow to the electronic parts through the electronic wirings when a leakage occurs temporarily such as due to cracking at the flexible tube, or the like. Furthermore, when both the flexible tube and the electronic wiring are pushed into a narrow hollow pipe, the flexible tube might be crushed so as to cause a high pressure loss to be generated such that there occurs the possibility that the liquid cannot be properly circulated unless the pump as a high discharging pressure. However, since in a notebook type computer to which the present invention is directed, it is necessary to utilize a small-sized pump with a low discharge pressure if the flexible tube has a crushed portion, the ability to circulate liquid may be substantially reduced. Thus, the present invention provides a structural arrangement to the flexible tubes one of which is utilized for transferring liquid from the tank and another of which is utilized for transferring liquid to the tube in a circulation system is passed through one hinge whereas electrical wiring is passed through another separate and independent hinge, whereby improvements in safety and avoidance of electrical problems are obtained. Applicants submit that such features as recited in claim 1 and the dependent claims are not disclosed or taught in the cited art.

Turning to Chu et al, as recognized by the Examiner, "Chu et al does not teach a hinge to which an electric wire from the display is passed". Moreover, although Chu et al indicates that one or more hinges 46 are provided so that cover 44 pivots between an open and close position relative to computer body 42 and that liquid coolant is pumped via a miniature circulation pump 56 through flexible plastic tubing 54 into a heat exchanging structure 52 disposed within cover 44 of portable computer 40 and the tubing 54 is preferably continuous between the computer body and the cover, the location of the tube in relation to a hinge 46 is not clearly

disclosed, although Fig. 2 appears to show the flexible tube 54 passing through a hinge 46, and claim 2 of Chu et al recites, for example, the feature that "the conduit comprises a flexible conduit passing through the at least one hinge ...". It is readily apparent due to the location of the flexible tube 54 which regard to flow paths as indicated by arrows in Fig. 3A and Fig. 4 that assuming, arguendo, that Chu et al provides for plural hinges, one hinge would might be provided on one side of the cover 44 and an other hinge at an opposite side of the cover 44 at the connection to the computer body in correspondence with the flow paths. However, it is apparent that two flexible tubes for transfer of a liquid would not pass through a single hinge, as recited in the claims of this application. Again, it is recognized by the Examiner that Chu et al provides no disclosure of teaching of providing a hinge to which an electric wire from the display is passed and, assuming arguendo, that an electric wire is passed between the main computer body and the cover, it would appear that such wire would pass through a hinge having a flexible tube therein. Thus, applicants submit that claim 1 and therewith the dependent claims patentably distinguish over Chu et al in the sense of 35 USC 103 and all claims should be considered allowable thereover.

As to Esterberg et al, it is noted that this patent merely discloses, as indicated by the Examiner, a hinge 18 for a portable computer through which an electric wire 140 is passed. It is noted that Esterberg et al provides no disclosure or teaching of a tank filled with a liquid or the provision of two flexible tubes for transferring the liquid, in the manner defined, in which two flexible tubes are passed through a first hinge while an electric wire is passed through the second hinge, as recited in claim 1 of this application. Although the Examiner contends that it would have been obvious to a person of ordinary skill in the art to route the wires of Chu et al through the hinges

of the device as taught by Esterberg et al, applicants submit that such routing, as suggested by the Examiner would result in electric wires and the flexible tubes for transfer of liquid being routed through the same hinge, which is contrary to the claimed features of this application. Thus, it is apparent that the proposed combination represents a hindsight reconstruction attempt utilizing the principle of "obvious to try" which is not the standard of 35 USC 103 and which does not result in the recited feature of claim 1 and the dependent claims that two flexible tubes for transferring the liquid pass through a first hinge while an electric wire from the display device passes through the second hinge and the first hinge and the second hinge are independently provided. Accordingly, applicants submit that claim 1 and the dependent claims patentably distinguish over this proposed combination of references in the sense of 35 USC 103.

With respect to the dependent claims, applicants submit that the dependent claims, when considered in conjunction with parent claim 1 recite further features of the present invention not disclosed or taught in the cited art. For example, new dependent claim 8 recites the feature which has been deleted from claim 1 that the tank is attached to the radiation plate, and that the first hinge and the second hinge are independently provided in correspondence with passage of the two flexible tubes for transferring the liquid and the electric wire, respectively, for safety and elimination of electrical problems. As to dependent claim 3, the Examiner recognizes that Chu et al does not teach a resin display case but contends that it would be obvious to select a known material as a matter of obvious design choice. Hereagain, the Examiner has utilized the principle of "obvious to try" which is not proper (see In re Fine, supra) while contending that it would be obvious since no materials are utilized which again is not proper (see In re Lee, supra). As to the features of claim 6, the

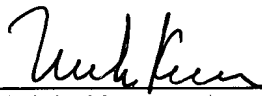
Examiner contends that Chu et al teaches (Fig. 3B) a tank that is placed in a position closest to the first hinge to which a tube for transferring the liquid is passed, and it is apparent that Chu et al does not disclose two flexible tubes being passed through a first hinge and electric wire being passed through a second hinge nor the structural arrangement, as recited in claim 6 when considered in conjunction with parent claim 1. Thus, applicants submit that the dependent claims, when considered in conjunction with parent claim 1 further patentably distinguish over the cited art and should be considered allowable therewith.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance and issuance of an action of favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 520.42791X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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